

Assignment: A4

Due: 25 October 2012

You are to explore the use of Adaboost using Bayes classifiers to classify scanned images of the 26 lower-case characters (i.e., a-z). Several aspects of this approach deserve careful attention:

- **Input vector**: choose an appropriate feature set
 - Pixel values (binary): image pixels or subsets of image pixels
 - Low-level features: e.g., moments, projections
 - High-level features: Euler number, regions filled by letter, etc.
- **Number of Classifiers**:
 - Study performance as a function of number of classifiers
 - Study performance impact of number of histogram bins
- **Data Management**:
 - Describe how you select training and testing data

In addition, the results need to be presented in a strong statistical framework; this means computing statistics (e.g., mean, variance) over several trials (how many?), and showing confidence intervals.

Finally, the analysis and interpretation are the essential parts of the report; use these to present your findings, understanding and remaining problems.

In this assignment, the major goal is to explore the use of Adaboost with Bayesian classification.

There is a set of sample images on the class data sub-directory.